

environment: an integrated approach

energy

economy

society

Dofasco policy on environment

At Dofasco, the conservation and protection of our natural environment is a fundamental consideration in our decision-making. Environmental quality and the well-being of our community are primary goals for all Dofasco people.

We are committed to:

- the principles of sustainable development which require that we conduct our activities in a manner that provides for the present without compromising the ability of future generations to meet their needs. We will integrate these principles into product and process design, manufacturing and business planning.
- managing renewable and non-renewable resources through the responsible application of reduce, reuse and recycle principles.
- minimizing any potential adverse impact of our operations and products on the natural environment, employees, customers and the community. We will search for or design, on an ongoing basis, innovative and preventive practices and technologies.
- optimizing the effectiveness and integrity of our environmental management system through open communications, comprehensive education programs, environmental audits and risk assessments.
- developing understanding among all employees of their responsibilities, and assigning the necessary authority.
- meeting the standards set by relevant legislation and international agreements through participation with governments and the diligent application of economically feasible and scientifically sound methods and technologies.



John Mayberry

President & Chief Executive Officer

contents

- 1 president's message
- 2 environment
- 8 energy
- 10 economy
- 12 society
- 14 emission inventories
- 15 management system
- 16 glossary of terms

president's

message

At Dofasco, we are working hard to meet the challenges of operating within a global business framework. We also have a growing understanding of our place in the global environment.

We believe it is people that ultimately make environmental progress happen. People are behind the management systems, best practices and technology that often capture so much of the attention. To support our people, we work hard at creating a work environment of trust, openness, cooperation and mutual respect. In this context Dofasco people are mobilized to take responsible action and make decisions that are good for the environment.

This is our third annual environment report. In this report we share specific environmental performance data. We remain committed to delivering excellent results and fulfilling our responsibilities. Beyond performance data, however, we hope to share a fresh way of looking at our business as it touches the environment, energy, economy and the well-being of people. Exploring these linkages is part of a learning process for ourselves and for employees, shareholders, neighbours, and students. We think that sharing information is a first step in this important learning process.

To us the concept of "sustainable development" is a focus on our activities today with an understanding of the implications for generations to come: an integrated approach that is good for the environment, for people and for business.

John Mayberry
John Mayberry





environment

Dofasco is situated on the western end of Lake Ontario on Hamilton Harbour. The company began operations in 1912 as a steel foundry. Today, we employ 7,000 people and manufacture approximately three million tonnes of quality flat rolled steel products per year.

T H E S T A T E O F O U R E N V I R O N M E N T

In the nineteenth century, vast marshes in Hamilton Harbour provided a habitat for wildlife. In 1900, the harbour's fishery accounted for 15% of the Lake Ontario commercial catch. As population and development in Hamilton increased, sewage in the harbour made the water unsafe for swimming and the first beaches were closed in the 1940s. Since 1926, one quarter of the water and wildlife habitat has disappeared as the Harbour was filled in and used for industrial purposes.

The legacy of these past activities is a significant environmental footprint. Hamilton Harbour is one of the forty-three areas of concern in the Great Lakes. A Remedial Action Plan has been developed for Hamilton Harbour. This Remedial Action Plan is regarded as a model in content and process. So far, an estimated \$800 million has been spent cleaning up Hamilton Harbour. For the first time in fifty years, swimming is now allowed. People are now able to catch and eat fifty species of fish that thrive in the Harbour. Dofasco was one of many stakeholders involved in establishing the environmental problem definition for the Harbour and recommending remedial actions. Dofasco is now carrying out these recommendations that include reducing pollutant discharges and treating contaminated sediment.

Today, the main pollutant affecting air quality in Hamilton is airborne particulate or dust. Dust-fall levels in the northeastern industrial area of Hamilton exceed Ministry of the Environment and Energy guidelines. Members of the community have also expressed concern over fallout in their neighbourhoods. Dofasco is one of several sources of particulate emissions in this area of the city.

Regional and global environmental issues also affect the environmental priorities and decision making at Dofasco. These include global warming, protection of the ozone layer, acid rain, smog and the quality of water in the Great Lakes.

O U R E N V I R O N M E N T A L C H A L L E N G E S

Local environmental concerns and international environmental initiatives present opportunities and challenges to Dofasco. Our actions over the past twenty-five years demonstrate our commitment to responsibly address environmental issues.

We will continue to identify and implement opportunities to meet the future challenges of improving air quality, improving water quality, the responsible management of resources and reducing targeted pollutants.

I M P R O V I N G A I R Q U A L I T Y

Since 1970, air quality in the Regional Municipality of Hamilton Wentworth has continually improved. At Dofasco, we have had a long-term commitment to reduce particulate emissions. We have reduced particulate emissions from our operations by over 93% since 1970.

Raw Materials (tonnes)	
Iron Pellets	4,627,000
Semi-Finished Steel	1,015,000
Coal	1,651,000
Water	165,000,000
Air	10,076,000
Other	3,375,500
	185,744,500

Steel Products
3,039,000 tonnes

Saleable
non-steel products
1,211,000 tonnes

Materials Cycle

Steel Scrap
787,000 tonnes

Recycled Water
1,623,000 tonnes

Water
165,000,000 tonnes

Solid Wastes
to Landfill
140,000 tonnes

By-Product Fuels
6,299,000 tonnes

Water Pollutants
1,700 tonnes

Air Pollutants
19,800 tonnes

Products of Combustion
 $\text{CO}_2, \text{H}_2\text{O}, \text{N}_2$
16,333,000 tonnes

Responsible environmental management touches

the entire life cycle of all materials not only "pollutants".

Maximizing the value of steel and other products, recycling

and recovering materials and minimizing potential

environmental impacts are all part of the challenge.

The potential sources of air emissions at Dofasco are exhaust stacks from our operations, wind blown dust from open surface areas such as roads and storage piles, and process ventilation systems. Exhaust stacks and wind blown dust from open surface areas are possible sources of particulate such as iron oxide or carbon. Exhaust stacks and process ventilation systems are sources of gaseous pollutants such as sulphur dioxide, carbon dioxide and nitrogen oxides.

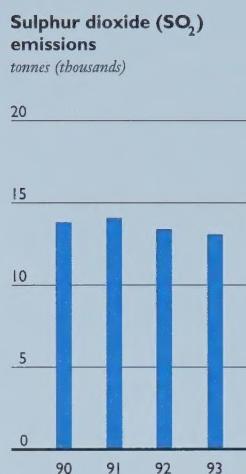
Particulate emissions generated by our processes are controlled using cleaning equipment such as baghouses and scrubbers. Particulate from storage piles and open areas is controlled by paving and sweeping roads, applying dust suppressants, planting grass and trees and applying operating procedures to stop material movement during periods of high winds.

Our approach to reducing emissions to the air consists of four main steps.

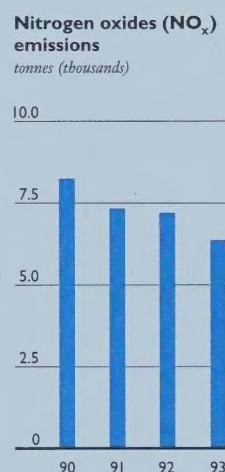
- Identification of the source and cause of the emissions.
- Evaluating and implementing measures to prevent and control the emission.
- Monitoring and assessing our environmental performance.
- Making further improvements as needed to continually improve our performance.

Several measures were carried out in 1994 to reduce particulate emissions. Changes to operating practices and equipment modifications reduced the variation in fuel supply to our operations. A consistent supply of fuel reduces episodes of incomplete combustion and associated emissions of particulate. Trees and ground cover were planted to eliminate sources of dust from our dock area. Fencing was installed on the coal storage piles to reduce wind speeds across the storage piles. Reducing wind speeds decreases the potential for emissions of wind blown dust. These and other improvements resulted in about a 30% reduction in reported visible emissions during 1994.

The environmental laws in Ontario prohibit visible emissions that are greater than 20% opacity. Opacity is a



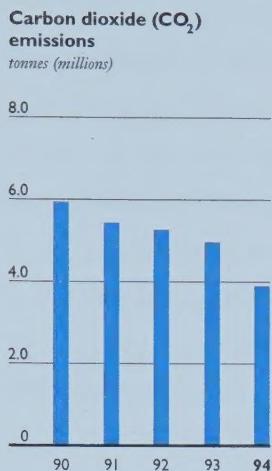
Improvements in emissions of sulphur dioxide and nitrogen oxides were a result of fuel substitution strategies and the first full year of operating with 100% continuous casting technology.



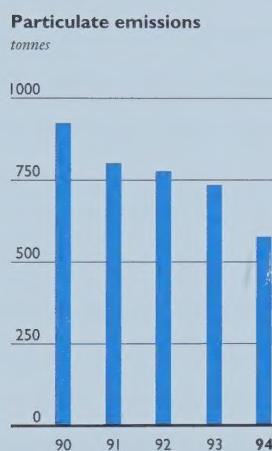
In 1994, Dofasco continued to actively participate and cooperate with governments and other stakeholders to identify new measures to reduce emissions of nitrogen oxides.

measure of the “darkness” of an emission. An emission from one of our processes that lasted ten minutes resulted in a ticket from the MOEE for violating the opacity requirements of the Environmental Protection Act. We identified the cause of the emission and have put systems in place to prevent a reoccurrence of a similar event.

Gaseous pollutants such as sulphur dioxide, nitrogen oxides and carbon dioxide are caused primarily by burning fossil fuels such as oil, natural gas and our coal based by-product fuels. Sulphur dioxide emissions are a cause of acid



In 1994, CO₂ emissions were reduced to 3.95 million tonnes. At current emissions, Dofasco is exceeding the goal of the Canadian government to stabilize carbon dioxide emissions by the year 2000.



Particulate emissions were reduced in 1994 as a result of the improvements associated with operating with 100% continuous casting technology. Measures to reduce particulate emissions in 1995 include planting trees and groundcover to reduce wind blown dust and enhance operating practices.

rain. Nitrogen oxides are a concern because they react with other chemicals in the presence of sunlight to produce ground level ozone. Ground level ozone can cause adverse health effects and crop damage. Carbon dioxide (CO₂) is a greenhouse gas. Increases in greenhouse gas levels are linked to global warming and climate change by the international community. Most of the impact is attributed to human generation of CO₂ created through combustion processes.

We are reducing the emissions of these pollutants through improved energy efficiency and by removing the

contaminants from the fuels. Dofasco is one of the few North American steel companies that removes sulphur from coke oven gas before burning. If the sulphur were left in the fuel, it would react with the oxygen that is present during combustion and form sulphur dioxide.

Our reduction targets for these pollutants are dependant on many factors including the international agreements that Canada participates in developing and the availability of new technologies. For instance, Canada agreed to stabilize CO₂ emissions at 1990 levels by the year 2000.

I m p r o v i n g w a t e r q u a l i t y

Reducing the release of water pollutants and the clean up of historical contamination in Hamilton Harbour are the focuses of water quality improvement initiatives at Dofasco. We monitor water discharges daily. Examples of the parameters monitored include residual particulate, ammonia, phenol, cyanide, oil and grease, chrome, zinc, iron, dissolved organic carbon and phosphorous.

We use many different methods to reduce the amount of water pollutants released to Hamilton Harbour from our processes. Examples include water recycle systems, minimizing water consumption and pollution prevention through improved maintenance practices. Since 1970, releases of water pollutants from Dofasco have dropped by as much as 95%. Water consumption has also declined by 50% during the same time.

Although we were in compliance with MOEE guidelines for discharges to Hamilton Harbour throughout 1994, our efforts to reduce pollutant loadings continued. Between 1993 and 1994, emissions of water pollutants were reduced by as much as 620 tonnes per year. These reductions were a result of optimization programs on existing pollution control equipment and pollution prevention initiatives.

Our plans to further reduce releases of water pollutants include capital expenditures of approximately \$10,000,000 over the next three years. The installation of

Effluent water quality (kg per tonne of steel produced)

Parameter	Current Government Guideline	1994 Actual Discharge	1997 Dofasco Objective	Reduction program
Particulate	1.953	0.516	0.071	Major emphasis on tight recycle system at Steelmaking by using carbon dioxide injection; Final filtration for Ironmaking, Steelmaking and Hot Rolling effluents.
Cyanide	0.026	0.008	0.002	Enhanced treatment of Coke Plant Waste Water at the Regional Sewage Treatment Plant
Phenol	0.0026	0.00029	0.00004	Enhanced treatment of Coke Plant Waste Water
Chrome	0.1303	0.0008	0.0008	Investigate chrome substitutes
Ammonia-N	1.303	0.155	0.017	Enhanced treatment of Coke Plant Waste Water
Zinc	0.1303	0.0042	0.0013	Steelmaking recycle system; enhance existing systems
Oil & Grease	1.953	0.064	0.025	Steelmaking recycle system; enhance existing systems
Iron	1.303	0.085	0.0117	Steelmaking recycle system; enhance existing systems
Lead	—	0.0018	0.0007	Steelmaking recycle system; enhance existing systems
Phosphorous	1.303	0.005	0.005	None required

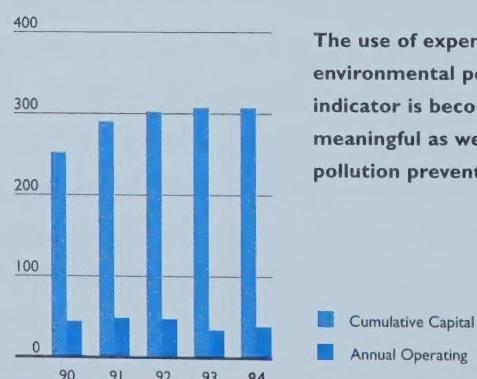
new water treatment facilities will reduce water pollutant releases by over 900 tonnes per year.

Uncontrolled releases or accidental spills are also potential sources of water pollution. Since 1992, we have been carrying out a spill prevention plan that was submitted to the Ministry of Environment and Energy. Our remedies

focus on eliminating the potential causes of spills. In 1994, our activities in this regard included spending over \$1 million on piping modifications and containment pads. These improvements resulted in a 60% reduction in spills during 1994. We consider all accidental spills as serious, whether or not they impact on the natural environment. Systems are in place to clean up spilled material. Our reporting of such events is based on this approach.

Our initiatives to assist with the clean up of Hamilton Harbour are focused on decontaminating the sediments in an area close to Dofasco's property. The objective is to remove this area from the Hamilton Harbour "hot spot" list in the next three years. We have supported the development of new treatment technology developed by scientists at the National Water Research Institute to support this goal. Over the last three years financial support for this initiative has totalled more than \$100,000.

Environmental expenditures
dollars (millions)



The use of expenditures as an environmental performance indicator is becoming less meaningful as we move toward pollution prevention measures.

We are also supporting a project led by the Royal Botanical Gardens to restore Cootes Paradise. Over the next five years, Dofasco will be contributing \$125,000 in support of this work that includes the recovery of 12.5 hectares of wetlands in this area.

R e s p o n s i b l e m a n a g e m e n t o f r e s o u r c e s

To produce new steel products we consume non-renewable resources such as coal, iron ore and oil. Dofasco is actively evaluating steel making technology which is based on 100% recycled scrap steel. The other major raw material for the steel making process is recycled scrap steel. The steel industry's need for recycled steel as an essential raw material to our processes led to the development of a comprehensive, efficient and profitable infrastructure for automotive recycling. Overall, the steel in new cars contains approximately 43% recycled steel.

Solid waste disposal
tonnes (thousands)



Diversion of material from landfill is an environmental priority at Dofasco. Further measures to reduce waste disposal in 1995 include enhancing the current system to segregate and recycle materials from the commercial garbage waste stream.

The manufacture of steel products also generates considerable quantities of useful by-product materials. In 1994, we manufactured three million tonnes of flat rolled steel products and 1.2 million tonnes of by-product materials. These materials are important commercial products used in road building and cement applications, raw materials for producing iron, fertilizer, aggregate, and roofing compounds. We have found that paying close

attention to the quality of these by-products enhances their value. Today we realize significant revenues from the sale of by-product material.

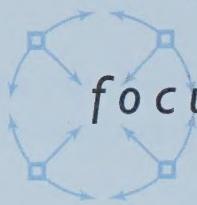
R e d u c i n g t a r g e t e d p o l l u t a n t s

Two national initiatives were developed over the last three years targeting the reduction of a specific list of pollutants. Environment Canada sponsored the National Pollutant Release Inventory (NPRI) which required reporting on up to 178 specific pollutants. Under the reporting requirements Dofasco reported on 23 of the 178 pollutants.

An industry led voluntary program focused on the "Accelerated Reduction and Elimination of Toxics." Developing the necessary inventory of substances and filing a report is a first step in developing detailed plans to reduce emission of these pollutants. The substances that were reported were either used, generated or released to the environment. At Dofasco we identified the presence of and reported on 70 of 117 possible substances associated with the "Accelerated Reduction and Elimination of Toxics" program.

Since 1990, we have made considerable progress in reducing the release of chemicals associated with the "Accelerated Reduction and Elimination of Toxics" or ARET program. This program focuses on reducing the releases of certain pollutants by 50%, and others by 90% by the year 2000. Through product substitution strategies and pollution control facilities, we have already reduced emissions of ARET chemicals by 40%.

In 1995 we will continue with our activities to voluntarily reduce these targeted pollutants. This includes capital expenditures to capture and control emissions. One example is the installation of benzene emission control technology to capture 230 tonnes/year of benzene. This project will be completed by the end of 1996 and will cost about \$5 million. We will also be continuing our focus on the products that we purchase.



focus on environment and

energy

The processes used to make steel involve high temperatures and complex chemical reactions. Energy, in the form of carbon, is needed to enable the chemical reduction reaction to convert iron oxide to elemental iron.

Non-renewable energy

In 1994 Dofasco consumed a total of 55 Petajoules of energy. This is roughly equal to 0.5% of all Canada's energy use, enough to heat over 330,000 average homes for one year.

Most of the energy consumed by Dofasco is non-renewable and comes primarily from fossil fuels. Only that portion of electricity that is hydro-generated is renewable. We acknowledge that we have a responsibility to appropriately manage our use of non-renewable energy.

Energy efficiency goal

We are targeting an energy efficiency rate of less than 19 GJ/tonne shipped for 1996, 4% lower than current levels based on expected improvements to our production processes.

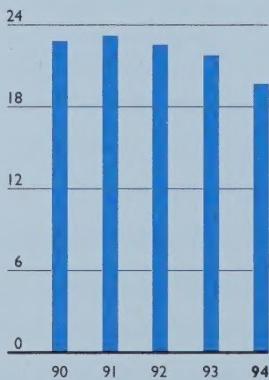
Dofasco is an active participant in the Canadian Industry Program for Energy Conservation (CIPEC). Through CIPEC, Canadian industrial leaders have identified a goal to improve efficiency at an average rate of 1% per year up to the year 2000. This means that economic growth can proceed while industry aids in the achievement of the national climate change commitment. Although we have already surpassed the 1% energy efficiency goal, our efforts to identify and use measures to reduce energy use will continue throughout this period.

Management of energy resources within Dofasco includes the effective use of the by-product gases generated

in our coke and ironmaking operations and specific energy conservation activities throughout the plant. Conservation of energy resources continued to take place across our plant in 1994. Improved coke oven heating control, retention of molten iron temperature and better sealing of our slab reheat furnaces all helped reduce our energy consumption. In 1995, we will continue to identify and implement energy conservation opportunities by reducing the amount of steam used in our operations and by enhanced electricity monitoring equipment.

We are reducing the amount of energy needed to make a tonne of steel to reduce costs and emissions and to conserve resources. This means stretching the value derived from each unit of energy brought in and reducing the

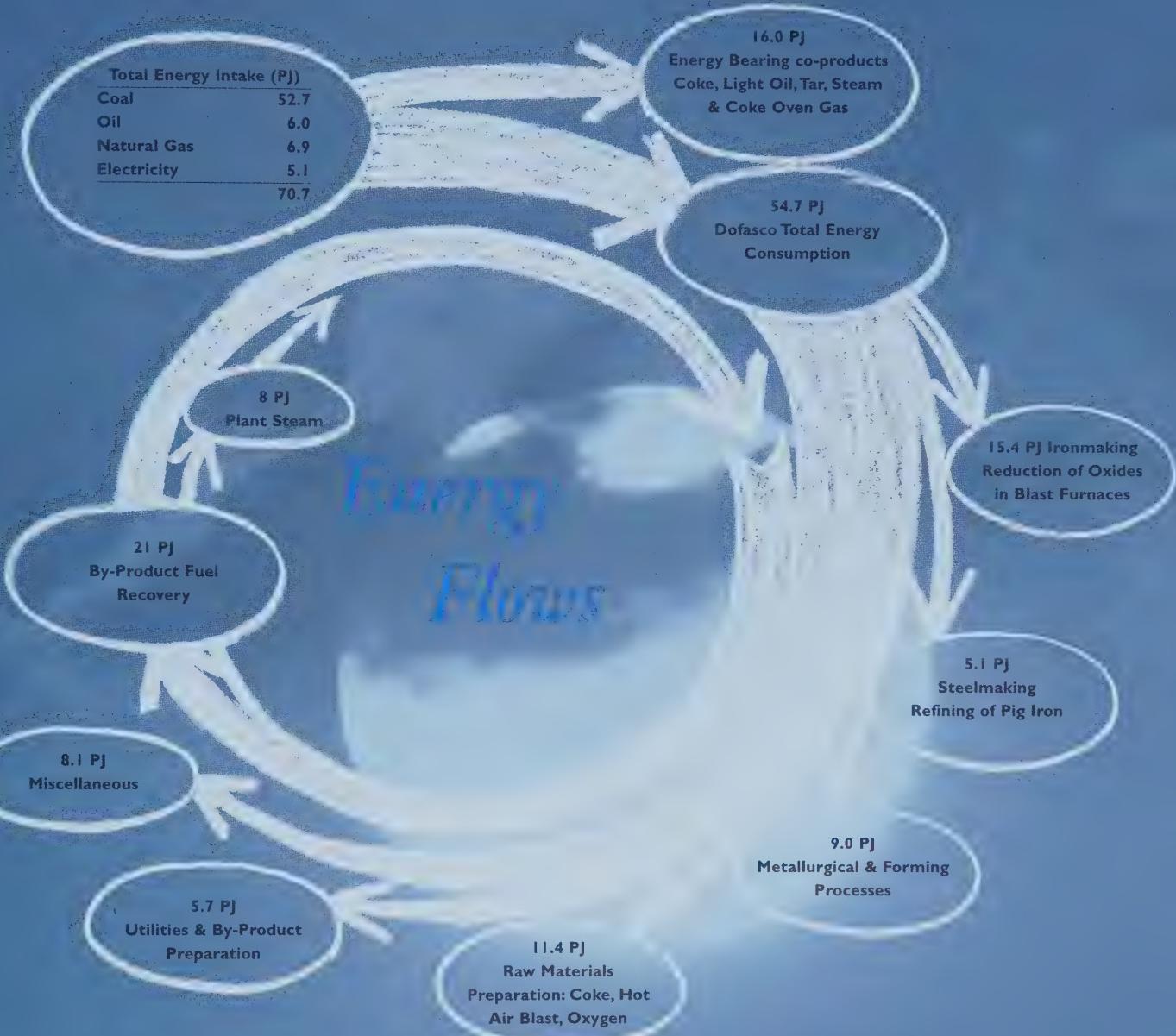
Energy efficiency
GigaJoules/tonne shipments



Energy consumption per tonne of steel shipped dropped from 21.8 in 1993, to 19.6 GJ/tonne in 1994. This change was due to the shift to 100% continuous cast production technology and an increase in the purchase of steel slabs.

Over the period 1990 to 1994, improvement has averaged 3.6% per year.

amount of energy wasted. Energy efficiency improvements result from energy conservation projects, yield improvement programs and raw material sourcing choices.



Energy ultimately cannot be recycled. The challenge is to consume less by reducing the energy requirements of our processes and equipment and then making the most of the energy that we do use. Each petajoule (1,000,000,000,000,000 Joules) would heat about 6,200 houses for one year.



focus on environment and

economy

In the early 1970s Dofasco's approach to environmental management was to retrofit technology to existing plant equipment. It was looked at as an additional cost to doing business. Today we understand how responsible management of environmental issues is an integral part of our overall business and essential for our financial success.

C a p i t a l e x p e n d i t u r e s

Historically up to 15% of our corporate capital expenditures have been for environmental projects. Pollution prevention projects and changes in operating practices will likely be the source of significant gains in the future, although some capital projects will still be required. Our capital plans over the next three years will include approximately \$15 million in environmental expenditures to address both voluntary and regulatory requirements.

F i n a n c i a l m a n a g e m e n t

Investor interest in environmental matters has grown significantly. Dofasco's proactive approach means that potential long-term liabilities are minimized or eliminated. For example, in 1994 we voluntarily conducted a site-wide ground and ground water survey to determine if the site has been contaminated. Out of twenty-five monitoring sites only one showed traces of contamination and for only one parameter. Proactive management now means no surprises later. While no immediate action is required we are continuing to monitor the area.

P r o c e s s i m p r o v e m e n t s

We take an integrated approach to developing and improving our production processes. Genuine improve-

ments go beyond cost savings. For example, in the last year we improved our production yield by 3%. Yield is a measure of the amount of finished steel product from a given amount of raw materials. Improving yield through better production processes also leads to lower emissions, energy consumption, and costs.

P o l l u t i o n p r e v e n t i o n

Preventing oil system leaks at our Hot Mill resulted in a number of benefits. A water pollution problem was eliminated, oil cost and consumption were reduced and water treatment costs went down. Finally the value of iron scale sold as a by-product was enhanced.

E n e r g y e f f i c i e n c y

A 1% improvement in energy efficiency at Dofasco reduces production costs by approximately \$2 million, reduces the consumption of non-renewable fossil fuel resources by 1% and reduces carbon dioxide emissions by almost forty thousand tonnes per year.

V a l u e i n n o n - s t e e l p r o d u c t s

We are generating over \$100 million in revenue from selling non-steel products. These products are supported by quality control, marketing and customer relations systems much the same as steel products.

T h e E c o n o m i c L i n k

Environmental progress at Dofasco has helped foster new businesses, markets and technologies. These developments are a growing component of our local and global economies.



Environmental considerations are included in operating expenses and reinvestments in the business. The environment is an integral part of our decision-making process.

focus on environment and society

We believe that collaboration, involvement and participation in environmental initiatives within our community are fundamental to developing mutual understanding and appropriate actions. Steel products are integral to infrastructure development and an essential part of our everyday life.

Our local community

The Hamilton Harbour Remedial Action Plan is an example of the success that results from working together. Meeting with our neighbours, community leaders and scientists helps to identify workable solutions to address our environmental challenges. These interactions lead to good quality decisions that enable us to act, and know that we are taking the appropriate approach.

Steel products in use

Steel is 100% recyclable and non-toxic. Steel cans may become new steel products in a matter of weeks; cars may take ten years, buildings and bridges up to a century. Ultimately all steel can be reprocessed into valuable products. In addition, steel offers the unique attributes of low cost, high flexibility in design applications. Today, Dofasco has over one thousand different product designs suited to the needs of over five hundred customers.

We are continually searching for ways to improve our products which enhance their performance with respect to the environment. Dofasco participated in a project which

used advanced engineering expertise to completely redesign the body shell of a popular North American sedan. The new design achieved an 18% reduction in weight, 14% increase in stiffness, elimination of 53 parts and a cost reduction. These improvements translate to improved vehicle crash safety, reduced environmental impact, better fuel efficiency and lower vehicle operating cost.

The global community

We are committed to making a contribution to the global environmental effort. Joint projects with the International Iron & Steel Institute and North American producers are underway to look at the life cycle environmental impact of automobiles including steel and other materials.

Dofasco employees are contributing to the effort to develop international standards for environmental management systems, life cycle analysis tools and environmental performance evaluation. These projects are coordinated through the International Standards Organization (ISO) and the United Nations Environmental Program (UNEP). Working with the Canadian International Development Agency (CIDA) we visited China and hosted a delegation of Chinese steel producers, academics and government representatives. These visits enabled a rich exchange between cultures and the sharing of environmental insights.



**As we attempt to meet the needs
of today's generation we must remember that the
same ecosystem must support generations to come.**

**Working together as a community is a start to
developing that long-term understanding.**

Emission inventories data

Chemical Name	Released to Environment (Tonnes per year)			Primary Release		Report		Action Plan	
	1990	1993	% Reduction	Air	Water	Land	ARET	NPRI	
Hydrogen Sulphide	2086	1077	48.4	•	•		•		Investigate new practices for slag cooling & emission control technologies
Benzene	531.36	454.44	14.5	•			•		Emission controls at Coke Plant By-Product areas
Ethylene Glycol	NA	119	NA		•			•	Process & maintenance improvements
Ammonia	NA	80.36	NA	•				•	Emission control program
Polychlorinated Aromatic Hydrocarbons (PAHs)	54.39	45.98	15.34	•	•		•		New technology and upgrades at Coke Plant ovens
Toluene	NA	43.74	NA	•				•	Emission control program
Ethylene	NA	37.31	NA	•				•	New technology & upgrades at Coke Plant ovens
Cyanides	50.90	24.58	51.7	•	•		•		Emission controls; Continued optimization of Treatment Plant
Hydrochloric Acid	NA	22.51	NA	•				•	Process Improvements at Pickle Lines
Zinc & Compounds	15.96	13.39	15.6	•	•		•		BOF recirculation system
Naphthalene	NA	11.48	NA	•				•	Emission control program
Xylene	NA	5.612	NA	•				•	Emission control program
Manganese & Compounds	NA	5.02	NA	•	•			•	BOF recirculation system
Copper & Compounds	4.63	3.56	23.0		•		•		BOF recirculation system; Scrap management; Product substitution
Phenol	14.52	2.94	79.8	•	•			•	Treatment plant upgrades; Investigate substitutes
Cresol	NA	1.76	NA	•	•			•	Emission control at Coke Plant ovens
Ethylbenzene	NA	1.47	NA	•				•	Emission control program
Styrene	NA	1.18	NA	•				•	Emission control program
Chlorinated Organics	2.11	1.02	51.7	•	•			•	Product substitution, reformulation & reduction
Nickel & Compounds	3.86	0.82	78.9		•		•		Production substitution, reformulation & BOF recirculation system
Other Metals (eg: Arsenic, Beryllium; Mercury)	0.36	0.33	7.30		•		•		Scrap management; Recycle programs
Lead & Compounds	3.83	0.28	92.7	•	•			•	Collection and recycle program; Use reduction
Chromium & Compounds	NA	0.24	NA	•	•			•	Investigate alternative to chrome solutions
Phosphoric Acid	NA	0.189	NA			•		•	Spill control in By-Products area
Ammonia Sulphate Solution	NA	0.149	NA			•		•	Spill control in By-Products area
Ethanol	2.89	0.10	95.6	•	•		•		Product substitution, reformulation & reduction
Nitrosamines	0.018	0	100		•		•		
PCBs	0	0	NA				•		

NA = Not available

ARET = Accelerated Reduction and Elimination of Toxics

NPRI = National Pollutant Release Inventory

Dofasco Environmental Management System

- Community & Interest Groups
- Customers
- Dofasco Employees
- External Audits
- Government Legislation & Initiatives
- Industry Advancements
- Internal Audits
- International Agreements
- Performance Measures
- Science & Applied Research
- Shareholders
- Voluntary Initiatives

Clear Vision, Values

Accountability/Ownership

Define Strategies

Skills & Capabilities

Assign Responsibility

Effective Systems

Appropriate Structure

Measure Results

We are committed to optimizing

the effectiveness of our management systems.

This requires us to be constantly collecting inputs,
planning, working in a systematic way and
following through to achieve results.

Glossary of terms

Baghouse An air pollutant control device used to trap particles by filtering gas streams through large cloth or fiberglass bags.

Contaminant Any solid, liquid, gas or odour which results in adverse effects in the environment.

Carbon dioxide (CO₂) An odourless, colourless gas – a product of combustion of a fuel containing carbon.

Climate change A change in the average weather. This might encompass changes in temperature, precipitation and wind patterns. On a global scale, it refers to changes in the climate of the earth as a whole.

Effluent Waste material discharged into the environment, either treated or untreated, usually refers to water pollution.

Emission Waste material discharged into the environment, either treated or untreated, usually refers to air pollution.

Energy efficiency More correctly, specific energy consumption – the net consumption of energy in a process or group of processes per unit of output product.

Fossil fuels Coal, petroleum and natural gas are made of fossilized, carbon rich plant and animal remains which when buried and compressed over millions of years were converted to fuels.

Gigajoule A measure of energy. A Gigajoule equals 1,000,000,000 Joules. A 100-watt light bulb turned on for one second consumes 100 Joules.

Greenhouse gases One of several heat trapping gases (e.g. water vapour, carbon dioxide, methane) that absorb heat emitted by the earth, thereby retarding the loss of energy to space. The presence of greenhouse gases has been a characteristic of the earth's atmosphere for millions of years and is responsible for ensuring temperatures habitable for humans.

Global warming Popularly understood to mean climate change brought about by increases in global temperature.

Non-renewable Unable to be replenished within human time frames, as harvesting rates exceed generation rates.

Opacity The amount of light obscured by emissions, usually measured as a percentage.

Ozone – ground level The primary component of urban smog.

Ozone – stratospheric A stable layer of atmosphere which protects humans and the earth from harmful rays of the sun.

Particulates Finely divided solid or liquid particles in the air or in an emission. Particulates include dust, smoke, fumes, mist, spray and fog.

Reduction reaction A chemical reaction in which oxygen is removed from a compound, e.g. Iron Oxide to Metallic Iron.

Scrubber An air pollutant control device that reduces the temperature of an emission – a liquid spray is used to remove pollutants from a gas stream by adsorption or chemical reaction.

Smog A contraction of smoke and fog; smog or photochemical fog includes ozone and other air pollutants.

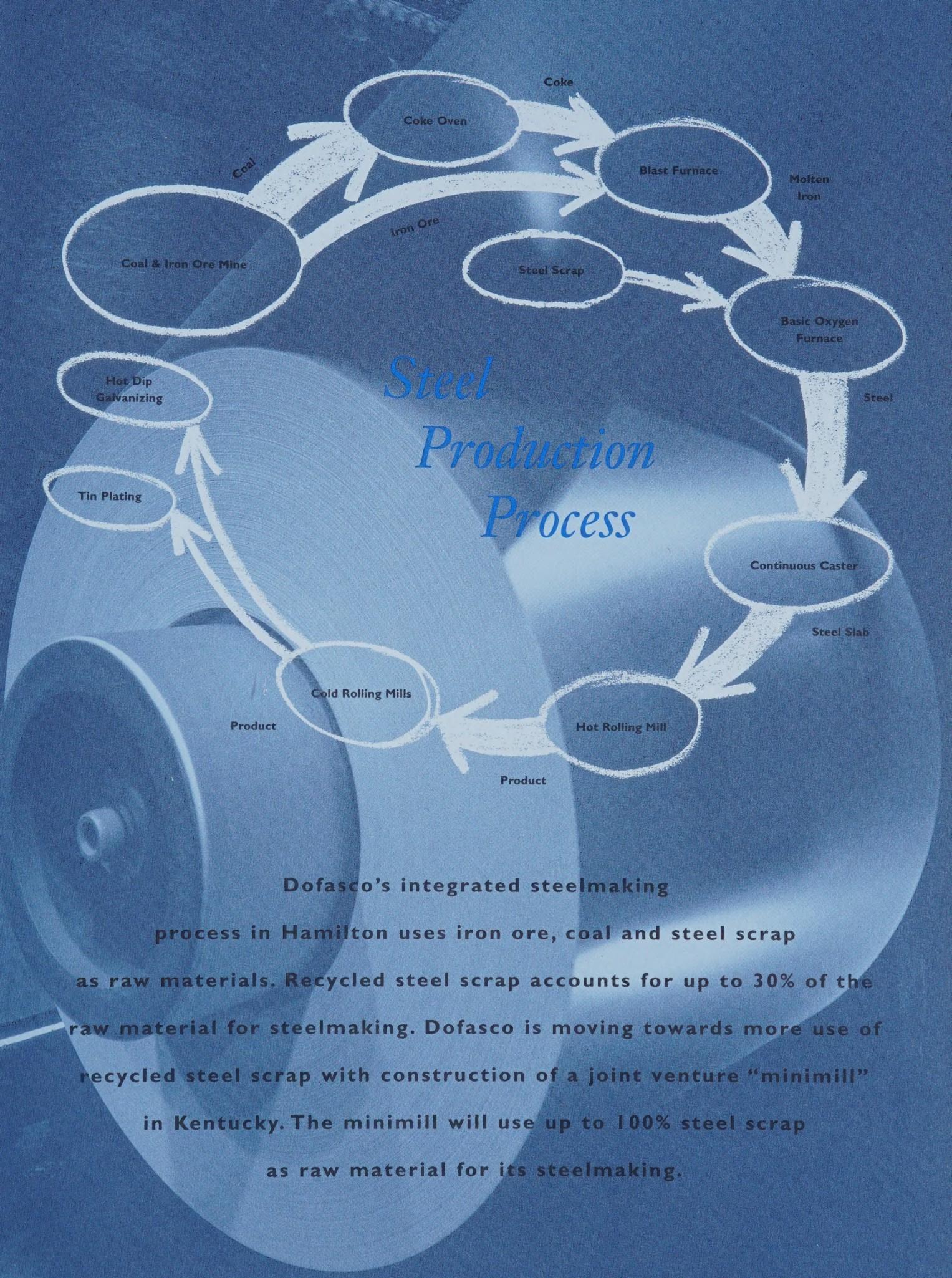
Sulfur dioxide (SO₂) A colourless, pungent gas formed by the combustion of fossil fuels – has been identified as one cause of acid rain.

Suspended solids Solids that either float on the surface of or remain suspended in liquids.

Sustainable development Economic development that meets the needs of the present without compromising the ability of future generations to meet their needs (Brundtland, 1987).

Total suspended particulate (TSP) Fine liquid or solid particles smaller than 100 microns found in the air or in emissions.

Yield The ratio of the amount of product compared with the amount of material input to a process or group of processes.





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